

REMARKS

Claims 30, 42-63, 69-84 and 87-92 are pending. By this Amendment, claims 42, 46, 47, 51, 52, 54, 55, 57, 60, 69-72, 90 and 91 are amended, and claims 64-68, 85 and 86 are cancelled. The claims are amended to even more clearly distinguish over the applied references. No new matter is added by the above amendments.

Applicant notes with appreciation the allowance of claims 30, 58, 59, 62, 63, 75-84 and 88. Applicant respectfully submits that all pending claims are in condition for allowance.

Claims 60, 61 and 64-69 stand rejected under 35 U.S.C. §102(b) over JP-A-61-91662 (Horiuchi et al.). This rejection is moot with respect to cancelled claims 64-68. Applicant respectfully traverses this rejection with respect to claims 60, 61 and 69.

Horiuchi et al. merely discloses illuminating a reticle 8 via a diaphragm having an annular transmitting region in Fig. 1, or a diaphragm having a large number of small apertures in Fig. 3. Horiuchi et al., however, does not disclose or suggest providing a light intensity distribution with decreased intensity portions on first and second orthogonal axes with respect to which the original is to be placed, as recited in independent claims 60 and 69. Horiuchi et al. does not disclose any relationship between its decreased intensity portions and the first and second orthogonal axes relative to which the original is to be placed. In addition, Horiuchi et al. is silent regarding providing the decreased intensity portions by a shaping optical system including at least a movable optical element and an exchangeable optical element. Accordingly, independent claims 60 and 69, along with their dependent claims, are patentable over Horiuchi et al. Withdrawal of the rejection is requested.

Claims 42-57, 64 (as it depends from certain of the rejected claims), 65-68, 70-74, 85-87 and 89-92 stand rejected under 35 U.S.C. §103(a) over Horiuchi et al. in view of U.S. Patent No. 4,947,413 (Jewell et al.). This rejection is moot with respect to cancelled claims

64-68, 85 and 86. This rejection is respectfully traversed with respect to the remaining claims listed above.

The Office Action asserts at page 3, lines 9-11 that "the claim is of such breadth that it is not limited to the fine pattern of the mask extending along the X and Y axes (i.e. 0 degrees to 180 degrees orientation for the X axis and 90 degrees to 270 degrees orientation for the Y axis) respectively." As noted above, however, Horiuchi et al. merely discloses illuminating the reticle 8 via a diaphragm having an annular transmitting region in Fig. 1, or a diaphragm having a large number of small apertures in Fig. 3. The pattern, and particularly the directions of the linear features of the pattern, is not taken into account to perform the illumination in Horiuchi et al. Because the pattern is not taken into account to perform the illumination, Horiuchi et al. does not disclose or suggest the features recited in the independent claims included in this rejection.

"Although a prior art device 'may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or a motivation in the reference to do so.'" MPEP §2143.01 (citing *In re Mills*, 916 F.2d 680, 682, 16 USPQ2d 1430, 1432 (Fed. Cir. 1990)). A person skilled in the art would not have been motivated, based on the teachings of Horiuchi et al., to take into account the pattern to perform the illumination as recited in Applicant's claims.

Regarding independent claims 42, 47, 90 and 91, Horiuchi et al. does not disclose or suggest any relationship between the orthogonal first and second directions along which the linear features of the fine pattern extend and the decreased intensity portions of the light source. Horiuchi et al. also is silent regarding providing a light source having decreased intensity distribution by the shaping optical system including at least a movable optical element and an exchangeable optical element. Jewell et al. does not overcome these

deficiencies in Horiuchi et al. Accordingly, claims 42, 47, 90 and 91, as well as their dependent claims, are patentable over Horiuchi et al. and Jewell et al.

Regarding independent claim 52, Horiuchi et al. does not disclose or suggest that the strengths of illumination in first and second planes of incidence including the orthogonal first and second directions, respectively, along which the linear features of the fine pattern extend is made lower than that in a third plane of incidence other than the first and second planes by a shaping optical system including at least a movable optical element and an exchangeable optical element. Jewell et al. does not overcome these deficiencies in Horiuchi et al. Accordingly, independent claim 52 and its dependent claims 53, 54 and 92 are patentable over Horiuchi et al. and Jewell et al.

Regarding independent claim 55, Horiuchi et al. does not disclose or suggest that the strength of illumination in a predetermined plane of incidence is made greater than that on the first and second planes of incidence including the orthogonal first and second directions, respectively, along which the linear features of the fine pattern extend by a shaping optical system including at least a movable optical element and an exchangeable optical element. Jewell et al. does not overcome these deficiencies in Horiuchi et al. Accordingly, independent claim 55, along with its dependent claims 56 and 57, are patentable over Horiuchi et al. and Jewell et al.

Regarding independent claims 70 and 71, Horiuchi et al. does not disclose or suggest the relationship between the orthogonal first and second directions along which the components of the pattern extend and the increased light intensity distribution. Horiuchi et al. also is silent regarding shaping the increased light intensity distribution by the shaping optical system including at least a movable optical element and an exchangeable optical element. Jewell et al. does not overcome these deficiencies in Horiuchi et al.. Accordingly,

independent claims 70 and 71, along with their dependent claims 73 and 74, are patentable over Horiuchi et al. and Jewell et al.

Regarding independent claim 72, Horiuchi et al. does not disclose or suggest the relationship between the plane of incidence including the predetermined direction in which the linear features of the pattern extend and the increased light intensity portions. Horiuchi et al. also is silent regarding providing the light intensity distribution by a shaping optical system including at least a movable optical element and an exchangeable optical element. Jewell et al. does not overcome the deficiencies in Horiuchi et al. Accordingly, independent claim 72 is patentable over Horiuchi et al. and Jewell et al.

Withdrawal of the rejection is requested.

In view of the foregoing, Applicant respectfully submits that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,



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MAC/ccs

Attachment:

Petition for Extension of Time

Date: October 24, 2005

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